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EXAMINER				
NGUYEN, TRUNG Q				
ART UNIT		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/768,443

## Applicant(s)

WARE ET AL.

## Examiner

TRUNG Q. NGUYEN

## Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 03/13/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-181 is/are pending in the application.
- 4a) Of the above claim(s) 15-179 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 180 and 181 is/are rejected.
- 7) ☒ Claim(s) 6-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4 and 180-181 are rejected under 35 U.S.C. 102(e) as being anticipated by Garlett et al. (U.S. 2008/0049819).

Regarding claims 1 and 180-181, Garlett et al. disclose in Fig. 3 and Paragraphs 22 to 37, a test circuit 48, a first element FOSA 44 and second element FOSA 46 comprises at least one of a transmitter 46X and receiver 46R; wherein when the first element is couple to the test circuit 48 the second element 46 is coupled to the first element 44 (44 and 46 connected through either 48 or 32 and 34); at least one of the first and second elements is capable of testing another one of the first and second element using the test circuit 48; and the first element comprises a receiver 44R when the second element comprises a transmitter 46X.

Regarding claims 2-4, Garlett et al. disclose in paragraph 23, lines 3, the semiconductor device is configured to operate at high frequencies 1.25 GHz (1Ghz-3Ghz).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garlett et al. (U.S. 2008/0049819) in view of Komatsu et al. (U.S. 6,631,486) and further view of Haruyama (U.S. 7,092,637).

Claim 5, Garlett et al. fail to disclose the test circuit includes a pattern generator and pattern compare circuitry. However, Komatsu et al. disclose a pattern generator 11 and compare circuitry 12 in Fig. 2.

Therefore, at the time of the subject invention, it would have been obvious for a person of ordinary skill in the art to use a pattern generator 11 and compare circuitry 12 as taught by Komatsu et al. in the device of Garlett et al. in order to provide a better indication of the other circuitry or signals dictates when the pattern set starts and ends, which pattern set is to be used, whether the transmitter or receiver is being used, and whether some of the pattern comparisons are to be ignored, or masked.

5. Claim 6 is rejected under 35 U.S.C. 102(e) as being unpatentable over Garlett et al. (U.S. 2008/0049819).

Regarding claim 6, Garlett et al. is silent about the semiconductor device being configured to be coupled to at least one reference signal line that carries a voltage reference signal. However it would have been obvious for a person of ordinary in the art to use a test circuit having a signal passing through a comparator circuit to compare at least one voltage signal representing received data with the voltage reference signal specified to meet the desired objective.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-5 have been considered. Some of the arguments are moot in new ground of rejection.

#### ***Allowable Subject Matter***

7. Claims 7-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 7 recites, inter alia, "at least one reference signal line further carries a time reference signal and the test circuit includes at least one analog sampling circuit controlled by the time reference signal, wherein the analog sampling circuit

Art Unit: 2829

receives at least one voltage signal representing received data, such that the time reference signal determines a time offset between receipt of the at least one voltage signal by the receiver and evaluation of the at least one voltage signal by the receiver."

10 recites, inter alia, "at least one reference signal line that carries a voltage reference signal and wherein the test circuit includes at least one comparator circuit to compare at least one voltage signal representing received data with the voltage reference signal".

Claims 8-9 and 11-14 variously depending from claims 7 and 10 are allowable for the same above reasons.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trung Nguyen** whose telephone number is **(571) 272-1966**. The examiner can normally be reached on Monday through Thursday, 8:30AM – 5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ha Nguyen** can be reached at (571) 272-1678.

***Trung Nguyen***

Patent Examiner  
Group Art Unit 2829  
June 23, 2008.

Application/Control Number: 10/768,443

Page 6

Art Unit: 2829

/Ha T. Nguyen/

Supervisory Patent Examiner, Art Unit 2829